

IN THE CLAIMS:

Please cancel claims 88-91 and 123 without prejudice to or disclaimer of the subject matter recited therein, and amend the claims as follows:

85. (Thrice Amended) An apparatus for processing a process region of a substrate, using a plasma, comprising:

a container substantially formed of a conductive material;

a partition plate supported by said container and defining an air-tight process container portion and an air-tight auxiliary container portion, and having a window plate made of dielectric;

a work table arranged in said process container portion and having a support face facing said window plate, the substrate being mountable on said support face with the process region facing said window plate;

a main supply for supplying a process gas between said window plate and the substrate mounted on said support face, at least part of the process gas being transformable into the plasma;

a planar spiral coil having a quadrilateral outer configuration for generating an electromagnetic field between said window plate and the substrate mounted on said support face to induce generation of the plasma, arranged in said auxiliary container portion and facing said window plate;

a power supply section for applying a high frequency voltage to said antenna;

a pressure controller controlling a pressure difference between a pressure in said process container portion and a pressure in said auxiliary container portion lower than a predetermined value; and

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a seat arranged on said window plate supporting said planar spiral coil, said seat
having a passage therethrough for circulating a coolant.

120. (Twice Amended) An apparatus for processing a process region of a substrate, using a plasma, comprising:

a container substantially formed of a conductive material;

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a partition plate supported by said container and defining an air-tight process container portion and an air-tight auxiliary container portion, and having a window plate made of dielectric;

an exhaust pump for exhausting and setting at least one of said container portions to a vacuum;

a work table arranged in said process container portion and having a support face facing said window plate, the substrate being mountable on said support face with the process region facing said window plate;

a main supply for supplying a process gas between said window plate and the substrate mounted on said support face, at least part of the process gas being transformable into the plasma;

a planar spiral coil for generating an electromagnetic field between said window plate and the substrate mounted on said support face to induce generation of the plasma, arranged in said auxiliary container portion and facing said window plate;

a power supply section for applying a high frequency voltage to said planar spiral coil;

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a pressure controller connected to said exhaust pump for keeping a pressure difference between pressures in said process and auxiliary container portions at a minimum value; and

an auxiliary supply for supplying an inactive gas into said auxiliary container portion.

Sub D-17 C3 124. (Twice Amended) The apparatus according to claim 120, wherein said inactive gas supplied into said auxiliary container portion is a coolant, by which said planar spiral coil is cooled.

Sub D-17 C4 137. (Amended) The apparatus according to claim 120, wherein said pressure controller controls an output of said exhaust pump according to an amount of inactive gas supplied by said auxiliary supply.

Please add the following new claims:

Sub D-17 C5 165. (New) An apparatus for processing a process region of a substrate, using a plasma, comprising:

a container substantially formed of a conductive material;

Sub D-17 C6 a partition plate supported by said container and defining an air-tight process container portion and an air-tight auxiliary container portion, and having a window plate made of dielectric;

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a work table arranged in said process container portion and having a support face facing said window plate, the substrate being mountable on said support face with the process region facing said window plate;

a main supply for supplying a process gas between said window plate and the substrate mounted on said support face, at least part of the process gas being transformable into the plasma;

a planar spiral coil having a quadrilateral outer configuration for generating an electromagnetic field between said window plate and the substrate mounted on said support face to induce generation of the plasma, arranged in said auxiliary container portion and facing said window plate;

a power supply section for applying a high frequency voltage to said antenna;

a pressure controller controlling a pressure difference between a pressure in said process container portion and a pressure in said auxiliary container portion lower than a predetermined value;

a seat arranged on said window plate supporting said planar spiral coil, said seat having a passage therethrough for circulating a coolant; and

an exhaust pump connected to the auxiliary container portion and the process container portion.

166. (New) An apparatus for processing a process region of a substrate, using

a plasma, comprising:

a container substantially formed of a conductive material;

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a partition plate supported by said container and defining an air-tight process container portion and an air-tight auxiliary container portion, and having a window plate made of dielectric;

an exhaust pump for exhausting and setting at least one of said container portions to a vacuum;

a work table arranged in said process container portion and having a support face facing said window plate, the substrate being mountable on said support face with the process region facing said window plate;

a main supply for supplying a process gas between said window plate and the substrate mounted on said support face, at least part of the process gas being transformable into the plasma;

a planar spiral coil for generating an electromagnetic field between said window plate and the substrate mounted on said support face to induce generation of the plasma, arranged in said auxiliary container portion and facing said window plate;

a power supply section for applying a high frequency voltage to said planar spiral coil;

a pressure controller connected to said exhaust pump for keeping a pressure difference between pressures in said process and auxiliary container portions at a minimum value; and

an exhaust pump for exhausting and setting at least one of said process container portion and said auxiliary container portion to a vacuum.

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167. (New) An apparatus for processing a process region of a substrate, using a plasma, comprising:

a container substantially formed of a conductive material;

a partition plate supported by said container and defining an air-tight process container portion and an air-tight auxiliary container portion, and having a window plate made of dielectric;

an exhaust pump for exhausting and setting at least one of said container portions to a vacuum;

a work table arranged in said process container portion and having a support face facing said window plate, the substrate being mountable on said support face with the process region facing said window plate;

a main supply for supplying a process gas between said window plate and the substrate mounted on said support face, at least part of the process gas being transformable into the plasma;

a planar spiral coil for generating an electromagnetic field between said window plate and the substrate mounted on said support face to induce generation of the plasma, arranged in said auxiliary container portion and facing said window plate;

a power supply section for applying a high frequency voltage to said planar spiral coil;

a pressure controller connected to said exhaust pump for keeping a pressure

difference between pressures in said process container portion and said auxiliary container portions at a minimum value; and

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